Reduce the Pressure
Assess the Risk

Ian Bickerton
International Manager
Posture and Pressure Care Product Specialist
INVACARE UK
& MSS Manufacturing facility
Pencoed, near Cardiff, Wales
Estimate the likelihood of someone developing a pressure ulcer
Pressure Mapping
When should we use?
Skin

No Subcutaneous fat at heels or elbows
Pressure Ulcers

“A pressure ulcer is a localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with Shear”

International NPUAP-EPUAP Pressure Ulcer Definition 2009
Localised Pressure

- Occludes capillaries
- Restricts flow of oxygen and vital nutrients
- Lymphatic drainage restricted

- Cell deformation under sustained pressure can also lead to cell death
Shear Forces

- Forces parallel to the seating surface
- Often created by the effects of gravity
- Results in deep tissue damage
Friction

- Resistance in movement between one surface and another...
Intrinsic Risk Factors

1. Impaired Reaction to Pressure
   • Restricted Movement
   • Impaired Sensation

2. Other Indicators
   • History of Pressure Ulcers
Intrinsic Risk Factors

2. Decreased Tissue Tolerance
   - Heart Problems
   - Vascular Disease
   - Diabetes
   - Serious Illness
   - Old age
   - Incontinence
   - Neurological Condition
   - Medication
   - Obese or Under Weight
   - Dehydration/Malnourishment
Extrinsic Risk Factors

• Localised Pressure
• Shear & Friction
• Poor Posture
• Time
• Temperature
• Moisture
Gosnell (1988)

Reviewed 100 pressure ulcer articles and identified...

126

...possible risk factors.
Risk Assessment Scales

Norton
Braden
Waterlow
Douglas
RAPS
Gosnall
Medley
Dutch
Re-Modified
Norton
Knoll
Ek
Nova-4 Scale
Norton Scale

• Doreen Norton et al (1962)

• Inverse scoring

• 14 or less = moderate risk

• Easy to use

• No definitions

• Does not consider nutrition, friction or shear forces
Waterlow Scale

- Study - Norton Scale did not highlight an “at risk” group that later developed pressure ulcers

- Positive scoring. At risk 10 or more

- Criticised for being complex and classifying more into the “at risk group” than are actually at risk.

Judy Waterlow 1985, revised 2005
Braden Scale

• Barbra Braden and Nancy Bergstrom (1985)

• Developed to deal with limitations in the Norton scale

• Inverse scoring

• 16 or less = at risk

• Most validated scale by scientific literature
### Pressure Ulcer Risk Assessment Tools Comparison

<table>
<thead>
<tr>
<th></th>
<th>Waterlow</th>
<th>Braden</th>
<th>Norton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>3</td>
<td>BMI</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>4</td>
<td>Mobility</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Activity</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>Incontinence/Moisture</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>Food Intake</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>Malnutrition Screening Tool</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>9</td>
<td>Tissue Malnutrition</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>10</td>
<td>Sensory Perception</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>Friction and Shear</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td>General Physical Condition</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>13</td>
<td>General Mental Condition</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>14</td>
<td>Neurological Deficit</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>15</td>
<td>Major Surgery or Trauma</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>16</td>
<td>Medication</td>
<td>✓</td>
<td>x</td>
</tr>
</tbody>
</table>
“Risk assessment tools should only be used as an aide memoire and should not replace clinical judgement”

RCN/NICE 2001
“Do not base the selection of a support surface solely on the perceived level of risk for pressure ulcer development or the category/stage of any existing pressure ulcers.”

EPUAP/NPUAP 2009
Invacare
Softform Mattresses
Foam Castellations

Key hole cuts

Softform Premier
Clinical Papers

British Journal of Nursing

Pressure area management: a static-led approach
By Janet Thomas, Jane James

A static-led approach to pressure ulcers: an evaluation after 3 years
By Jane James
The Static-Led Approach
BJN Award winners 2002

Grade 1  Grade 2  Grade 3  Grade 4
2000  2001
Softform Premier Glide
® Invacare
Softform Premier Glide
Invacare
Softform Premier Glide
Invacare

Softform Premier Glide
A qualitative study on the effectiveness of the Softform Premier Glide mattress system on aged Patients with Pressure Ulcers

KAZUYO-SOOUDEI, MHSA CPHQ RN
SAPPORO CITY UNIVERSITY, JAPAN

WENDY MEINERT, RNC LNHA CLNC NACC
BOMBAY LANE LLC, GA USA

KIM BUTLER, LPN
CHC-UNIVERSITY NURSING & REHAB, USA
Outcome Summary

**Softform Premier Glide**
- 75% of patients on glide mattress *healed*
- 25% of patients on glide mattress *improved by 60%*
- 50% of patients on glide mattress *healed within 4 weeks*

**Regular Foam Mattress**
- 50% of patients on regular foam mattress *got worse*
- 50% of patients on regular foam mattress *acquired new PUs*
The alternating air pad is permanently below the castellated foam insert.
To ‘step up’ patient care couldn’t be easier

• Place the pump on the bed
Unzip the cover and remove the pipes
• plug into the pump

• switch it on
Clinical Paper

Publication: British Journal of Nursing

Softform Premier Active Mattress: a novel step-up / step-down approach

Geoff Thompson
Clinical Nurse Specialist: Pressure Ulcer Prevention / Management and Wound Care, Clinical & Equipment Resource Centre, Heart of England NHS Trust, Birmingham Heartlands Hospital, Bordesley Green East
Summary

- **Base mattress - proven static foam mattress**
  - clinically proven to **reduce** incidence of pressure ulcers **up to 90%**. *(cost savings)*
  - reduced use of dynamics *(cost savings)*
  - addresses Infection control issues

- **Active element**
  - easy step up / step down
  - virtually eliminates manual handling issues *(cost savings)*
  - In a power failure, the patient remains on a high risk support surface *(less risk / piece of mind)*
  - reduced storage space for stock *(cost savings / space)*
Invacare

Softform Excel

- **Softform Excel** is an excellent ‘entry level’ mattress that provides high level patient comfort without compromising on Quality or Pressure Care.
Flo-tech

Flotech unique anatomic surface
• enhances postural support
• offers greater pressure redistribution.
Thank you for listening!

Any Questions?